

(19) 世界知的所有権機関  
国際事務局(43) 国際公開日  
2004 年 4 月 29 日 (29.04.2004)

PCT

(10) 国際公開番号  
WO 2004/036647 A1

(51) 国際特許分類<sup>7</sup>: H01L 23/495  
(21) 国際出願番号: PCT/JP2003/013287  
(22) 国際出願日: 2003 年 10 月 17 日 (17.10.2003)  
(25) 国際出願の言語: 日本語  
(26) 国際公開の言語: 日本語  
(30) 優先権データ:  
特願 2002-302984  
2002 年 10 月 17 日 (17.10.2002) JP

(71) 出願人 (米国を除く全ての指定国について): ローム株式会社 (ROHM CO.,LTD.) [JP/JP]; 〒615-8585 京都府京都市右京区西院溝崎町 2 1 番地 Kyoto (JP).

(72) 発明者; および

(75) 発明者/出願人 (米国についてのみ): 小早川 正彦 (KOBAYAKAWA, Masahiko) [JP/JP]; 〒615-8585 京都府京都市右京区西院溝崎町 2 1 番地 ローム株式会社内 Kyoto (JP).

(74) 代理人: 石井 暁夫, 外 (ISHII, Akeo et al.); 〒530-0041 大阪府大阪市北区天神橋 2 丁目北 1 番 21 号 八千代ビル東館 Osaka (JP).

(81) 指定国 (国内): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) 指定国 (広域): ARIPO 特許 (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア特許 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

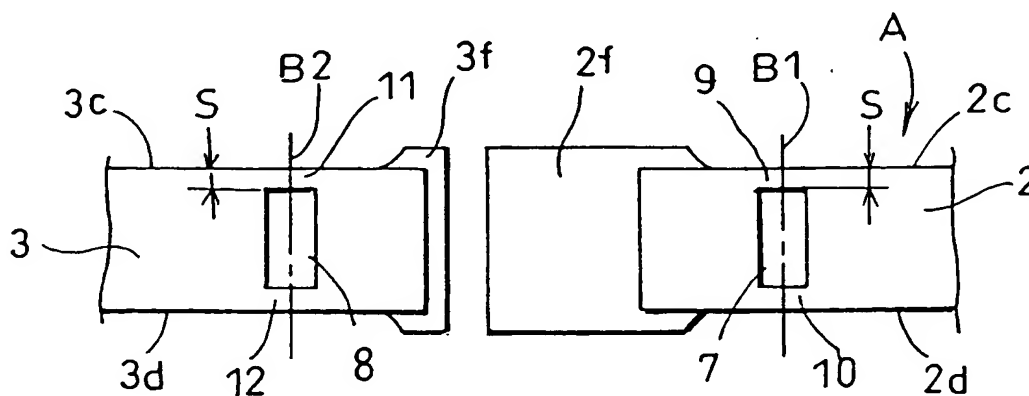
添付公開書類:

— 国際調査報告書

2 文字コード及び他の略語については、定期発行される各 PCT ガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

(54) Title: METHOD FOR CUTTING LEAD TERMINAL OF PACKAGE TYPE ELECTRONIC COMPONENT

(54) 発明の名称: パッケージ型電子部品におけるリード端子の切断方法



(57) Abstract: In an electronic component having a lead terminal, for a semiconductor chip, projecting from a molding part for packaging a semiconductor chip, or the like, a main notch for cutting is provided while leaving unnotched parts at the opposite ends thereof before the molding part is formed. After the molding part is formed, the lead terminal is cut at the position of the main notch thus making smaller and fewer burrs occurring on the cutting face.

(57) 要約: 半導体チップ等をパッケージするモールド部から、前記半導体チップに対するリード端子を突出して成る電子部品において、前記リード端子の表面に、前記モールド部を成形する前に、切断用のメインノッチを、その両端にノッチなしの部分を残して設け、次いで、前記モールド部を成形したあとで、前記リード端子を、前記メインノッチの箇所を切断することにより、その切断面に発生する切断バリを、小さく且つ少なくする。

WO 2004/036647 A1

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13287

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> H01L23/495

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> H01L23/48-23/50Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004  
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5391439 A (Dai Nippon Printing Co., Ltd.), 21 February, 1995 (21.02.95), Full text; Fig. 1 & JP 4-134852 A Full text; Fig. 1	1, 3, 4, 7
Y	JP 6-216298 A (Toppan Printing Co., Ltd.), 05 August, 1994 (05.08.94), Full text; Figs. 1 to 11 (Family: none)	1, 3, 4, 7
Y	JP 4-171854 A (NEC Kyushu Co., Ltd.), 19 June, 1992 (19.06.92), Full text; Fig. 1 (Family: none)	1, 3, 4, 7

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
07 January, 2004 (07.01.04)Date of mailing of the international search report  
20 January, 2004 (20.01.04)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## International application No.

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Form PCT/ISA/210 (continuation of second sheet) (July 1998)